OLD-TIME PROCESSIONS OF PRIESTS AND PEOPLE.

The observance of Palm Sunday has about it aptness, a simple dignity and a poetic beauty that are all its own. Its ceremonies are distinct and appropriate to itself. They recall a fine and touching picture in a way that is fitting and full of meaning. Moreover, Palm Sunday is one of the few days in the calendar that have observances and significations of purely Christian origin. Easter dates back to a pagan celebration of the return of spring, the rising of the year to a new life, after the death of the winter. But Palm Sunday has a deep tenderness of meaning in commemorating what might safely be called the last purely happy incident in the life of Christ, His triumphant entry into Jerusalem, when the people strewed palms in his way and cried: "Blessed is He that cometh in the name

From the nature of the incident which it recalls it is natural that the most distinctive feature of the observance of Palm Sunday should be a procession. To-day and in this country it is chiefly marked by the distribution of palms to the people in the churches, but it may be assumed that when this custom began it was the preliminary of a procession. It is not easy to say, however, just when the procession of Palm Sunday began to move. There is no certainty of it earlier than the tenth century, though it may have begun in the eighth, and in the East mention of the day itself occurs as early as the fifth century. The people of the Middle Ages loved pictures and shows, and the Church was always ready to provide them, especially in such ways as to help it enforce its own principles and lessons. The priests tried to reproduce for the people the scenes of the life of the Saviour and of Old Testament history in such crudely dramatic ways as should force them on their minds and fix them in their memories. It was a sort of kindergarten religious instruction for a childish population.

There was no time when this could be done more simply and effectively than on Palm Sun-The procession representing the entry of Christ into Jerusalem was all that was needed; better yet, it was a procession in which the people themselves could appropriately take part, and, best of all, with the waving palm branches, it became a pretty spectacle. In its use in artistic symbolism, apart from its connection with Palm Sunday, the palm has always been the badge of a martyr. Yet it is actually less the symbol of martyrdom itself than of the triumph over death. Always, then, in the procession of Palm Sunday or elsewhere, it may be said to be the tesque and irreverent, they did not seem so to the emblem of triumph.

The people came into the church-the people who were to make up the old Palm Sunday procession-and they saw the palms that the priests were to carry lying on the altar, while those that they were themselves to have were piled on real one, and then the figure on its back, reprehad been blessed, they were distributed to the people and the procession took its way from the church through the streets of the town and back | threw down their palm branches before this | al observance of the feast was carried on till to the church again. It was not always or every- car, as it passed, and eagerly picked them up afwhere that such a procession could be as dignified | ter the wheels had been over them, guarding | that it gradually fell into disuse.



"PALM SUNDAY IN OLD VENICE,"

(From a picture by José Villegas)

doors of St. Mark's, in Venice, but "never any- lightning. In countries where real palms were tender it." What the people did was all done boughs were used instead. In England, for in- lightning. There was a curious little local obin simpleness and duty, and if there were things stance, willow boughs were the favorite substiin these processions which might seem to us gro- tute. In some places, after the procession of the take their crosses of paim to the shrine of Our people who did them, and the Church of that day did not count them so.

To represent the Christ, a priest used to ride in the procession on an ass, carrying the Host. south steps of the altar. After the palms senting the Saviour, was also of wood. The whole

the ass and its image rider from the sexton, to drag about the streets, while they begged for Sometimes a wooden ass was used instead of a | these processions were extremely popular through the country, and when King Henry VIII broke with the Church of Rome he specified the carrywas mounted on a platform with wheels and was ling of palms on Palm Sunday as one of the cusdrawn through the streets by a rope. The people | toms that were not to be discontinued. The formsome time in the reign of Edward VI, and after

crosses of the palms, and these were supposed wooden ass was over, boys were allowed to hire | Lady of Nantswell, and when they had paid small fees to the priest in charge, they were allowed to throw the palms into the well. pennies. Half of all they got was the pay of | cross floated it meant that its owner would live the sexton. Before England became Protestant | through the year, and if it did not, it meant that he would die. As the crosses must have been reasonably light and generally sure to float, it is easy to see how this would become a popular form of divination. It was also said in Cornwall that if anybody did not have a palm in his hand on Palm Sunday he would some time have his hand cut off.

Up to a comparatively few years ago there was of the time.

and beautiful as that which could issue from the | them afterward as charms against storms and | In some places the priests used to make little | a pretty little custom in England on the Saturday before Palm Sunday. It was called going a-palmthing can be amiss, when simpleness and duty not to be had, other kinds of branches and to protect those who obtained them against ing, and it consisted in the young men and women going in parties to the woods to gather sprigs of willow. These were, of course, at this season of the year, the twigs bearing the little furry buds which children in this country call pussy-willows. It seems likely at first glance that this custom did not originally belong to Palm Sunday or Saturday at all, but was an adaptation of the more familiar and important May Day observance. In this land and time, outside the Roman Catholic Church, Palm Sunday means little. There is some observance of it among Episcopal churches, but for the most part it is allowed to have only an aesthetic and a decorative significance, merely suggesting, if it does even that, the thoughts and associations

since, through all the later years of his life.

Fortune has been kind to Villegas, and some time ago he was enabled to carry out a scheme such as every artist dreams of and one man in five hundred is permitted to realize. He built a huge villa for himself just outside Rome. It is a Moorish design, with a vast studio in the rear. Here, amid relics of mediaeval beauty and with the Roman landscape within his reach, with Venice not many hours away, Villegas has devoted himself to the production of great spectacular canvases, varying his labors by the occasional designing of some small and dainty picture, but concentrating his efforts almost exclusively upon works like the "Palm Sunday in Old Venice," which is reproduced on this page. They are spectacular, but they have not the meretricious qualities usually implied by that epithet. This artist has studied the pageantry of historio Italy, not merely in the writings of the Renaissance, but in the light of what Titlan has done, of what Carpaccio and Gozzoli have produced, of the best art as well as the best literature of the times he loves to paint. He is one of the rare artists whose devotion to extraordinarily subtle and complicated systems of technique has never changed their humble and inquiring attitude before the masters of the golden age. Villegas is one of the technical virtuosi of modern art, but he is to this day an assiduous student of Velazquez, Titlan and Veronese. Not merely in the costumes of his pictures does he seek to emulate the old masters. He cultivates their spirit and it heightens the significance of a picture like "Palm Sunday in Old Venice," a painting of ultra-modern technique and of gorgeous colors, to know that it is actually the fruit of a profound devotion to the masterpleces of early Italian art. early Italian art. Richardson, of Tennessee, who loves a joke was in the chair and promptly ruled that did, so Talbert, utterly oblivious of Reed's proceeded to the end of his story and follow with a dozen new ones which convulsed hors.

OSE VILLEGAS.

THE PAINTER OF "PALM SUNDAY IN OLD VENICE." The school of painting founded by Mariane

Fortuny, and developed by him in Spain and Rome, has had in José Villegas one of its strong-

est and most conspicuous pillars. This artist

was a young man when he fell under the influ-

ence of the master, and he formed himself upon

abundant originality and an enthusiasm for the

old masters. The result has been that his work

has carried on the tradition of Fortuny without

imitation, without loss of vitality. On the con-

trary Villegas has increased in power year after

year, and the art which has produced the beauti-

ful picture of "Palm Sunday in Old Venice," which

has revived upon canvas the regal splendors of

the "Incoronazione della Dogaressa Foscari," ia

to-day in its prime, and potent for incalculable

good in the school to which the painter belongs,

Villegas was born in Seville in 1848. He studied

for a time in the academy of his native town, and

then went to Madrid. From the Spanish capital he drifted to Rome, where Fortuny was already

established, and where the latter was steadily

gaining in power and influence. Villegas had

little of the sombre imagination which has so

often been noted in Spanish art. Like Fortuny

he was in love with the sun, and like Fortung again he was delighted with a vivaciously

picturesque theme, with a flashing bit of cos

tume, with a graceful group, with a light and

dainty episode. He used the technique of his

master, a technique rich in qualities of supple-

ness, rapidity and precision. As he looked about him in Rome, as he explored Venice and set to

work painting the canals and palaces of the lat-

ter city, the depth of Italian art was revealed to

him, and he began to study historical themes. He

has been studying them, painting them, ever

Fortune has been kind to Villegas, and some

since, through all the later years of his life.

Fortuny's style; but he had from the beginn

"YOU" AND "THOU."

THE CURIOUS ORDER OF THE NEW FRENCE MINISTER OF WAR.

A decree has just been issued at Paris by the new Minister of War forbidding officers to address the soldlers under their orders by the familiar pronoun of "thou." Henceforth the more forma, "you" is alone to be employed. It is needless to explain that the Minister of War is a civilian, for a soldler would never have made the mistake of imagining for one moment that the feelings of self-respect of a private or non-commissioned officer would be fected by the use of the familiar pronoun "tu."

"Tu" and "du" and "thou" are terms not of contempt, but of familiarity and intimacy, and their use implies no lack of consideration for the person to whom they are applied, but, on the contrary, a feeling of affectionate regard. In monarchical countries the Sovereigns have always made a point of addressing their troops with the pronoun in the same way that they apply the dren" to even grizzled and battle-scarred veterans twice their age. The men like to be addressed thus, and feel a sort of sympathy for those whom they regard as displaying in this way affection and

interest in their welfare.

By forbidding the use of the word "tu," French Minister of War has done far more harm than good, since he has rendered the relation between French officers and men more distant and formal, and has, in fact, raised a new barrier between those who hold commissions in the Army and those who do not. Of course, this new departure has been prompted by the spirit of republicanism, the Minister's idea being that a soldier is just as much a French citizen and entitled to as much re-

spect as an officer. In the German, Austrian, Italian and Russian armies the officers not only use the word "thou" to their men, but among themselves as well, and the youngest lieutenant may use it to his colonel or even to his general when off duty, the idea being they are brothers and comrades in arms. Officers meeting for the first time use "thou" even though one be a prince and the other the son of a petiy shopkeeper; one the colonel of some crack cavairy regiment, and the other as subaltern in a mere line of regiment. In the aristocracy, that is to say, among the old nobility, whence the pervenu and the nouveau riche element is severely excluded, every one calls the other "thou," even young girls styling old dowagers thus. Monarchs and royal personages in their intimate intercourse with one another, invariably use the pronoun "thou." The Prince of Wales addresses the Emperor of Austria as "du," and the Emperor of Germany makes use of the same pronoun when writing or speaking to King Oscar or any other monarch. "Tu" and "du" and "thou" imply social equality among the persons who use them to one another, and if the French Minister of War had been less hasty, and had taken the twould have found that during the early years of the great revolution at the end of the last century, the great revolution at the end of the last century, when the doctrines of equality were really enforced everybody made use of the word "citoyen" and of "thou" in addressing one another, no matter what might be the difference of age or official rank. even to his general when off duty, the idea being

From The Pittsburg Post.

Erie and Pittsburg trainmen are talking about the curious race between an express train and a wild goose which occurred the other day between Shadelard and Summit. The veteran engineer, Tony Welsh, was at the throttle, and when the Canadian honker came lazily soaring alongside the engine and challenged the Iron steed to keep up with him. Tony turned on the steam and made it necessary for the goose to flap his wings a little harder, and after getting out of sight of the train he would settle down in a field and wait for the express to catch up with him. He waited at Springboro, Conneautville and Summit, and starting after the train from these points, flew close to the coach windows in full view of all the passengers, who crowded over to that side of the train to observe the queer actions of the bird. When the goose at one time got close to the engine. Engineer Welsh pulled the whistle, and the bird was so badly scared that he turned over in the air like a tumbling pigeon.

CRAY & WHITE HAIR OF FINEST TEXTURE, MADE UP IN

WAVY SWITCHES, A FEATHER.

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TOPICS IN PARIS.

PRINCES ARE THICK AS ELACKPERRIES-THE "WHITE THEATRE"-THE WASH-ERWOMEN'S FESTIVAL.

Paris, March 20. As usual at this time of the year, France, in spite of her being endowed with a republican f rm of government, and with a Cabinet that proferses doctrines verging on full-fledged Socialism, has become the rendezvous of representatives of nearly all the European royal houses. Down on the shores of the Mediterranean there are no less than three Empresses-Eugénie, Elizabeth of Austria and Victoria of Great Britain-while a fourth is expected in the perof the widowed Czarina. The Emperor of Austria has been exchanging civilities with President Faure at Nice, conferring upon him the order of St. Stephen, while Russian Granddukes, Austrian Archdukes, Swedish, English, German and Spanish Princes and Princesses the blood are as thick as blackberries in Riviera. The latter is even threatened with a mest unwelcome visit from the German Emperor, whose yacht, the Hohenzollein, is awaitng him at Genoa, whence he proposes to cruise along the south coast of France, a call upon the Czarevitch and a visit to the Napoleon Museum on the Island of Elba being among the features of his programme.

At Marseilles there is the husband of the Queen of Madagascar, who differs, however, from the other visitors of high degree in that, instead of coming to this country of his own accord, he comes sorely against his will and as a prisoner of state. He is a little, shrivelled-up, dark-skinned, gray-haired man of seventy, but a bit of a dandy still. On landing from the Messageries steamer Iraouadly, he wore trousers of white silk, brocaded with a striped pattern, an elegant woollen jacket of light pattern, a heavy wrapper adorned with red and white checks, and a great fur cloak. Patentleather boots and a round felt hat completed this picturesque costume. He is reported to have looked decrepit and ill, and is now occupying apartments at the military hospital until his departure for Algeria, where he is to spend the remainder of his days in captivity. It is this old gentleman, who bears the name of Rainiinirfyeny, who is primarily responsible for the recent war that resulted in the conquest of his country by France. As the all-powerful Prime Minister of Madagascar, he has ruled that island with a rod of iron for nearly forty years, having during that time been the husband of no less than four successive Queens of Madagascar. According to all accounts, the present Queen, far from regretting his departure, is heartily relieved by the separation from her aged consort, who is her senior by about two-

score rears. Here in Paris during the week the Prince Wales has spent several days on his way south, displaying a marked interest in the horseless carriages, and calling at the Elysée Paris upon the President and Mme. Faure; the Grand-duke Alexis, who likewise visited the Chief Magistrate, and the Archduke and Archduchess Frederick of Austria. The Archduke, who is an elder brother of the Queen Regent of Spain, enjoys the distinction of being not only the wealthiest member of the House of Hapsburg, but also the one blessed with the largest family. Curiously enough, he has nothing but girls; there are nine of them, and according to a gypsy prophecy there must be three daughters more before the Archduchess can hope to present to her husband a son and heir.

AN AUSTRIAN ARCHDUCHESS.

This Princess, a singularly beautiful woman, is like the Crown Princess Stephanie, a Belgian. She differs from the latter, however, in that she is not by birth of royal rank, and it was owing to this that the Emperor for a long time hesitated to consent to a marriage, which entailed the concession of the rank and status of an Austrian Archduchess and of an Imperial Highness to the daughter of a mere Belgian nobleman, such as the Prince of Croy-Dulmen. The Croy family, however, which is related to the Chimays, the Merodes, the Abrenbergs and many other houses of the Belgian and French aristocracy. would not permit the match to take place unless Princess Isabella obtained full recognition as an rehduchess, and so at length the Emperor gave

hduke Frederick is one of the most capable generals of the Austrian army and a warm friend of Emperor William, but cordially disliked in Viennese society. This is due to his intense arrogance and pride, wherein he differs entirely

from the other members of the House of Haps burg, who are, generally speaking, amiable and unaffected in their intercourse with those who are not of Imperial rank. His eldest daughter the Archduchess Marie-Christine, a godchild of her aunt, the Queen Regent of Spain, married about a year ago young Prince Nicholas Esterhazy. The union was not of a morganatic character, for the Esterhazys belong to the so-called mediatized families, that is to say houses that have once enjoyed sovereign rank, and which are therefore admitted to mate on terms of equality with reigning houses. Moreover, the and Esterhazys might now be Kings of Hungary had they so willed, for the first Napoleon made



a definite offer of the throne of St. Stephen to the Prince Esterhazy of the day, with the object of seducing him from his allegiance to the Emperor of Austria. Prince Esterhazy, however, contemptuously declined these overtures, feeling probably that nothing would add to the prestige or wealth of his family, whose estates are almost exactly, mile for mile, the size of Ireland.

At length there has come a welcome reaction against the impropriety of the pieces presented



ARCHDUKE FREDERICK.

on the Parisian stage. For some time there has not been a single piece presented, not even at the Comédie Française, to which it was possible to take a young girl without offending her sense of delicacy. The well-known and popular actress, Mme. Samary, deserves the credit of having established at the Galerie des Champs-Elysées, in the Rue de Ponthleu, a theatre, which has been christened "The White Theatre," and upon the stage of which are presented none but plays that are absolutely free from everything calculated to offend the young girls who, with their mothers, constituted the principal portion of the audience. Curiously enough, the clubs were well represented in the latter, the men, most of them conspicuous on the turf, on the boulevards and in the "Monde ou l'on s'amuse," apparently deriving keen enjoyment from the radical change from the highly flavored dramatic fare of which they have obtained a surfeit during these last few weeks. The young girl of the period may esteem herself particularly fortunate, for at no epoch has there been so much done for her as at the present day. There is, for instance, the "Revue des Jeunes Filles," a magazine which contains only such articles as are suited for the literary consumption of young girls, and there are likewise a large number of new novels being published daily, which bear on the right hand corner of the title page a species of stamp intinating that the book is for young girls. The new

order constitutes a promising sign of healthy

reaction against the pruriency that has been so noticeable in so many phases of Parislan life in recent years.

THE CELEBRATION OF MID-LENT. Mid-lent was celebrated on Thursday with much pomp, in spite of the frightful rainy weather,

which, perhaps, was not altogether inappropriate when one remembers that this festival is particuwhen one remembers that this festival is particularly sucred to the divinities of the washin. For weeks the washewomen of Paris, belonging to every one of the different metropolitan districts, have been meeting together to elect a queen, and these queens in turn have assembled and chosen from their number the queen of queens, who constituted the principal feature of the great procession that stopped for the time all the traffic in the streets. Each district washhouse has a triumphal can decorated in the most gorgeous style, drawn by righty caparisoned horses, escorted by knights of armor and musimost gorgeous style, drawn by fi-hly caparisonal horses, escorted by knights of armor and musi-cians in historical costumes, while perched aloft is the district queen, surrounded by her courtiers and ladies in waiting. The great cen-tre of attraction was, of course, the queen of queens, who sat on a golden throne about thirty feet high, her chariet being drawn by Russian horses and escorted by Russian culrassiers and the procession halted in order that she might salute the President of the Republic, she received from M. Faure a handsome diamond and sapplire bracelet. The interest in the procession was considerably enhanced by the students following in the wake. The denizens of the Quartier Latin the wake. The denizens of the Quartier Latin showed themselves as full of fun as ever. The Chambers have just voted a law submitted by the Government, the object of which is to reorganize and extend in every direction the telegraphic communications of France with foreign countries. At the present moment nearly all the submarine cables of the world are under the control of the English, and it will scarcely be credited that the Government here, in order to communicate by telegraph with its possessions on the West Coast of Africa, in Madagascar, in Cochin China, and in Tonquin, can only do so your English lines the dispatches, going and reon the West Coast of Africa, in Madagascar, in Cochin China, and in Tonquin, can only do so over English lines, the dispatches, going and returning, passing in almost every instance through the London office. This is intolerable, especially in view of the rivalry which exists between England and France in Africa and Asia. The new law provides for the laying of a new cable between Brest and Boston, and for one from Boston to San Domingo, whence it will communicate with the lines already in existence in the West Indies and Antilles. There is also provision made for a connection between the lines of the Great Northern System, which traverse Siberia to Peking, Vladivostock and Shanghai, with the French telegraph system in Cochin China, by means of which the Paris Government will be able to communicate with Cochin China China, by means of which the Friday will be able to communicate with Cochin China independently of the English cables.

THE CARE OF EASTER LILIES.

A NICE PROBLEM FOR THE FLORIST TO HAVE THEM BLOOM ON TIME.

When the churches are decorated with Easter lilles next Sunday morning, it may be that some per sons will wonder why that flower blooms in so much greater profusion in one week of the year than in any other. They may think it strange that on Easter, be it early or late, the lilies are always at their best. Florists would tell them that the time-liness of these beautiful buds is one of the greatest

liness of these beautiful buds is one of the greatest problems in the horticulturist's business, a matter that requires no end of watching and calculating and painstaking.

The bulbs are planted in pots some time in August, and the stalks are carefully tended through the fail and winter till the buds begin to appear in the spring. The rest of the task depends upon the proper application of sunlight and temperature. If the dowering process seems to be slow a warm greenhouse and full exposure to the sun are necessary, but if the lilies advance too rapidly they must be set in a cool place and muslin or canvas must be stretched over the glass that covers them.

In the end, if the enterprise has been properly managed the flowers will be at their finest on Easter morning and the plants will be sold at the rate of twenty-five cents or more for every bud.

A NEW DISCOVERER OF AMERICA.

From The Geographical Journal.

To sum up briefly. The shortest route from the Old World to the New is from Cape Verde to Brazil. Winds and currents tend to carry a ship across. There is, therefore, an inherent probability that a Portuguese vessel should have been driven on to the Brazilian coast. This actually happened to Cabral in 1500. It might have happened at any time after ships begar to round Cape Verde. That cape was first rounded in 1445. In 1448 a remarkable map was made by Blanco, showing the most recent Portuguese discoveries. On it a long stretch of coast-line is shown southwest from Cape Verde, with an inscription saying that it is authentic, and 1.500 miles to the west. The only land in such a position is South Araerica. The discovery must have been made between 1445 and 1448. It is recorded that an unknown island was found far to the west in 1447. On the first map dealing with the Atlantic Ocean after Blanco's map, a large island is found in the position indicated by Blanco. The Portuguese had good reason for not troubling much about such an island, until the Papal Bull of 1433, with its line of demarcation, when their conduct leading to the Tordesillas Treaty of 1494, by which the line was shifted so far that they secured Brazil, seems to have been based on knowledge of the existence of land in the position of that country. Moreover, there is evidence to show that they publicly claimed the possession of such knowledge. If the views here set forth are tenable, the interesting and important result is obtained that America was discovered by the Portuguese in or about the very year in which Columbus is believed to have been born. Without removing one lota from the real merit of Columbus, it would add the crowning laurel to the already great glory of that marvellous man, Prince Henry the Navigator, who, it is pardonable to remember, was half an Englishman. From The Geographical Journal.

DETECTING "DARK STARS."

ONE OF ASTRONOMY'S ASTONISHING REVELATIONS.

DR. SEE CONFIRMS AN OLD SUSPICION REGARD-ING TO OPHICCH!-AN EXQUISITE PIECE OF

Nothing in the material universe, perhaps, so impresses the mind of intelligent and reverent man as the multitude of stars revealed to his eye, even without optical aids. Such tales do they tell of the infinities of space and time! Yet the number grows enormously when the telescope is called into play, and each time a more powerful glass is constructed baning array. But, besides this countless visible host, the astronomers tell us, there are indications of yet other orbs, how numerous it is impossible to conjecture, which cannot be seen at all. Just now the star known as "70 Ophiuchi" (No. 70 in the consultation of Ophiuchus) is attracting attention in the scientific world, because of its contributions to the scientific world, because of its contributions to during the scientific world, because of its contributions to during the scientific world, because of its contributions to during the scientific world, because of its contributions to during the scientific world, because of its contributions to during the scientific world, because of its contributions to during agent. still further accessions are made to the already apby Cosea ks. On passing the Elysee Palace, where the scientific world, because of its contributions to

With such exactness have the positions of all the brighter stars been determined, and so close is the watch still kept, that many of them have been found to have a gradual motion through the heavens. In some cases this progress is in one direction only; in others, there is a more or less regular wobbling, as if the body under scrutiny were proceeding in an orbit viewed almost edgewise from the earth. The total amount of shifting from side to side may not cover a greater angle of vision than a pendulum swinging three or four inches at the distance of a mile from the eye; but so perfect are the instru-ments, and so refined the mathematical methods employed, that this erratic behavior of certain stars is proven beyond a doubt, and the amount of the wandering approximately ascertained in many

THE COMPANIONS OF SIRIUS AND ALGOL. Haif a century or more ago, for instance, Bessel concluded from evidence of this kind that Sirius, the dog star, the holy star of Isls, had an invisible companion, and that the pair revolved around a com-mon centre of gravity placed somewhere between them. Years afterward, in 1862, Clark (the American telescope maker) finally discovered the disturbing agent. It was a faintly luminous orb, with half the mass but only a ten-thousandth part of the light of Sirius. The star Spica has a similar companion, dimly perceptible under favorable circumstances. Hessel announced that Procyon, too, was a double or binour of the companion. binary of the same character, but no one has ever yet been able to discover the attendant orb.

One of the best known of dark stars is the huge attendant of Algol, the winking demon of the Arabs. Until a very few years ago the sole interest at-taching to Algol proceeded from the variability in its light. At intervals of a little less than three days it begins to grow dim, changes enough it days it begins to grow dim, changes enough in three hours for the untrained observer to see the difference, and then within the next three hours recovers its full brilliancy. It is now conceiled that this phenomenon, which puzzled the ancients in-expressibly, is really a partial eclipse of the bright body by a dark one associated with it and the oody by a dark one associated with it, and there are a dozen or more other variables which are regarded as binaries of the same sort. But a new fact regarding Algol was discovered three or four years ago. Dr. Seth E. Chandler, of Cambridge, Mass., detected irregularities in the conduct of this star to satisfy him that there was a third body. also dark, in the combination, and his opinion has been accepted by other astronomers without dispute. Although we can see but one orb, therefore, with a powerful telescope, Algol is as truly a triple star as Gamma Andromedae, all three of whose components are visible. It is just such a conclusion that is now reached in regard to 70 Ophtuchi,

clusion that is now reached in regard to to opidical, long known as a binary.

This star now rises shortly before midnight, and is situated about 2½ degrees north of the celestial equator. The larger of the visible components has a magnitude of 4.5, and the smaller 6.5. The former is therefore a rather faint naked-eye star. The latter could be seen with a good field glass, if alone, but a more powerful instrument is needed to separate them, especially when, as now, their motion about the common centre brings them almost to-gether on a line drawn from the earth. Both are now of the same hue, a pale yellow, although the secondary has been described in the past as being "white, with an inclination to red," "rose colored" and even "violet." And the system is so far away from us that its light takes twenty years to reach

STRANGE CONDUCT OF A BINARY STAR. But how was the third member of the partnership discovered? In 1872 the two visible orbs occupied precisely the same relative position toward each other as they had in 1779. Hence it was estimated that the period of revolution required for this wondrous waltz was about ninety-three years. Astronomers accept it as axiomatic that each of the two stars in a binary moves in an ellipse, and that the two ellipses are of the same shape, though not of the same size. Taking into consideration the ob-served positions of the two components in the in-

terval between the earliest and latest record, it was computed that the orbit described by either body was about three times as long as it was wide. When, however, an attempt was made to draw an exact diagram of this orbit, the observed positions would not fall into line. There was more or less irregularity or discrepancy, whatever scheme was Thirty or forty years ago, therefore, suspicions

Thirty or forty years ago, therefore, suspicions were cutertained by Sir John Herschel, that there was another factor in the case. A Madras astronomer, Jacob, went so far as to conjecture that the smaller star was revolving around some hitherto unknown body, like the moon around the earth, (only at a far greater distance), and that the two then revolved around the larger visible star, as the earth and moon together go around the sun. But so keen-eyed an observer as S. W. Burnham, then with the great Lick telescope, could not subdivide either star; and some doubt still remained. Among those who tackled this fascinating problem was Dr. T. J. J. See, a young but gifted mathematician, now connected with the astronomical department of the Chicago University, His

In making such a computation, this fact must When a large satellite revolves be kept in mind: around a primary, the centre of its orbit is not the centre of the larger body, but a point some where between the centres of the two masses, near the bigger one. The primary, too, revolves around this imaginary pivot, but, of course, describes a smaller circle than the satellite. relative size of the two orbits depends on the relative size of the two orbits depends on the relative weights of the bodies. Hence one can ascertain the mass of the satellite, even if he cannot see it, by observing how far away from the centre of gravity of the pair (the imaginary pivot) the primary is. It is feasible, likewise to find out how long it takes the satellite to make its circuit, by watching the wobbling of the primary. Dr. See's calculations satisfy him that Jacob was right in associating the suspected dark body more directly with the smaller orb in the visible pair, but he differs from Jacob in one or two other details. He makes the dark star the smallest of the three, and makes it a satellite of the smaller bright he. The neriod of its revolutions he fixes at thirty-six years. In computing the movement of these two with reference to the larger bright star, one must adopt as the basis of his calculation that invisible pivot of the pair, the centre of gravity about which the minor revolution is performed. One must not be guided by the bright secondary alone. Making this allowance, Dr. See finds the period of the greater revolution to be eighty-eight years, instead of ninety-three.

Using 70 Ophiuch as a text, Miss Clerke says: "The discovery of dark stars solely through their gravitational effects must be regarded as a signal triumph of exact astronymy." Infeed, one hardly knows which to admire most, the complicated structure of the stellar system thus exhibited or the exquisite workings of the human inteliect which these mathematical tasks reveal. And as there are many more bigartes which destroy irregularity, it is probable that the field of research here indicated is a large one.

Other evidence of the existence of dark stars in space is afforded by the sudden appearance of relative weights of the bodies. Hence one can as-

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Other evidence of the existence of dark stars in space is afforded by the sudden appearance of certain temporary stars, giving a peculiar double spectrum. Each of these is now believed to be due to a collision between a swarm of meteors and a solid mass, both previously invisible. The presumption is that every durk star is a body which was one intensely brilliant like our sun, owing to its heat, but has radiated enough of the cold and hard all the way through, or only a cool shell over a motion mass. But the history of such bodies is, after all, merely a matter of conjecture.

APPROPRIATE TO AUTOGRAPH HUNTERS. Alblon (N. Y.) correspondence of The Rochester Post-Express.

Post-Express.

The unwillingness of the late Lord Tennyson to respond to requests for his autograph is well known. A fine collection in Albion contains a few lines written by the laureate's hand, which are highly prized not only for their value, but for the difficulty with which they were obtained, and which are interesting for the humorous pertinence of the sentiment quoted by the author from one of his poems. The first request of the Albion man for "an autograph and sentiment" was unheeded, and the second fared no better, but the undaunted admired wrote again, and to his third petition received a reply 'in a beautiful clear hand the words: "A. Tennyson, Sentiment: 'Ask me no more.'"

LEGAL STATUS OF A JOKE.

Champ Clark in The St. Louis Republic.

By long odds the best anecdote teller—though by no means the greatest humorist—in the Lillid was that honest and flery son of the Old Palmetto State, the Hon. Jasper Talbert—the man who recently by his declarations touching "the late unpleasantness" stirred to the very depths the patriotism of certain Republican members, who, like Colonel Mulberry Sellers, are always "for the old flag and an appropriation."

I hereby acknowledge my indebtedness to Talbert for some of the best campaign yarns ever told on the stump; but it must be confessed, even by his most ardent admirers, that certain of the South Carolinian's jokes were hoary with age and badly she flowers. Champ Clark in The St. Louis Republic

Carolinian's jokes were hoary with age and badly shelfworn.

The most fetching campaign story ever spun since Momus began his merry reign is the one about the preacher reading his text from the Bible, two of whose leaves had been glued together by some mischievous boy. The world knows it by heart. It was what H. Martin Williams would call a "corker." Henry Grady told it at that celebrated New-England dinner in New-York City in the speech which made him famous wherever the English language is spoken. Grady himself, Colonel Christopher Ellerbe and Governor David A. Ball all have some claims to the paternity of that joke. One day Talbert was telling it in a speech in the House. When he was about half through Mr. Reed came ambling down the alsle and said: "Mr. Speaker, I would like to inquire, for the sake of information, if the Statute of Limitation never runs against an anecdote?"

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